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VSP HOMOLOGIES

	1	5	10	15	20	25	30
VSP-b	RSSEYK	CASFR	AYEARN	IRAK	KY	EE	EOY
VSP-a	RTPEYK	CASWR	AYEARN	IECE	EE	EE	EEY
T.phos		LKCTT	WRFFV	ETNNL	SPWK	EE	ESA
Ph.vulg	SDTEYR	CASWR	AYEAQN	IECE	EE	EE	EOY
Ar.VSP		PNERS	WHIGF	ETSNM	INEE	EE	VPANCK
Ar.1A-1	SINYPN	ERSWH	IGVETS	SNINEE	EE	EE	VPANCK
Ar17A-1	SINYAN	ERSWH	IGVETS	SNINEE	ED	EE	VPANCK
	31	35	40	45	50	55	
VSP-b	EPIKEY		INGE	FRSE	SKTYN	QDAFF	YASE
VSP-a	EATKEY		INGE	FRSE	SKTYN	QDAFF	YARD
T.phos	DYVKEY		MYGPG	YKMEI	DRVS	DEAGE	YAKS
Ph.vulg	DATANY		IEGG	YRSD	SKTYN	QDAFF	YARD
Ar.VSP	AYVEDY	LIITS	KOYQ	YDSK	TYNKE	AYEY	YAKS
Ar.1A-1	AYVEDY	LIITS	KOYQ	YDSK	TYNKE	AYEY	YAKS
Ar17A-1	DYVEDY	LIITS	KOYQ	YDSK	TYNKE	AYEY	YAKS
	60	65	70	75	80	85	
VSP-b	REV		HHNDI	FFGI	DNVLS	SNIPYY	EKKH
VSP-a	LEV		HPKDT	FVFS	DNVLS	SNIPYY	KKH
T.phos	VDGDD	GRDVM	FEVD	ETLS	SNLPYY	SDMR	
Ph.vulg	RHV		HENDV	ILEN	DGTAL	SNIPYY	SQHG
Ar.VSP	LALKND	INVW	FE	DDI	SS	IPYY	AKYG
Ar.1A-1	LALKND	INVW	FE	DDI	SS	IPYY	AKYG
Ar17A-1	LALKND	INVW	FE	DDI	SS	IPYY	AKYG
	90	95	100	105	110	115	
VSP-b	YGVEE	EFNE	LYDE	WYKGD	APAL	PETL	EKN
VSP-a	YGVEE	EFNE	LYDE	WYKGN	APAL	PETL	EKN
T.phos	YGLEV	FDDE	VEFCK	WYENG	APAL	GSS	EKE
Ph.vulg	YGSEK	FDSE	ERYDE	EFYKGE	APAL	PETL	EKN
Ar.VSP	YGTEN	TAAG	AYWS	WLVSE	TPG	PETL	LHL
Ar.1A-1	YGTEN	TAAG	AYWS	WLVSE	TPG	PETL	LHL
Ar17A-1	YGTEN	TAAG	AYWS	WLVSE	TPG	PETL	LHL

TO FIG. 1A.

FIG. 1.

FROM FIG. 1.

	120	125	130	135	140	145
VSP-b	Y	N	K	L	S	G
VSP-a	Y	N	K	L	S	G
T.phos	Y	Q	E	V	L	K
Ph.vulg	Y	N	K	L	S	G
Ar.VSP	Y	E	N	L	L	E
Ar.1A-1	Y	E	N	L	L	E
Ar17A-1	Y	E	N	L	L	E
	150	155	160	165	170	175
VSP-b	K	A	G	H	T	W
VSP-a	K	A	G	H	T	W
T.phos	N	A	G	H	T	W
Ph.vulg	K	A	G	H	T	W
Ar.VSP	A	V	G	V	K	W
Ar.1A-1	A	V	G	V	K	W
Ar17A-1	A	V	G	V	K	W
	180	185	190	195	200	205
VSP-b	R	E	N	L	R	A
VSP-a	R	E	N	L	R	A
T.phos	R	N	A	M	V	E
Ph.vulg	R	A	K	L	V	Q
Ar.VSP	R	N	S	L	V	R
Ar.1A-1	R	N	S	L	V	R
Ar17A-1	R	N	S	L	V	R
	210	218				
VSP-b	R	T				
VSP-a	R	T				
T.phos	R	S				
Ph.vulg	R	S				
Ar.VSP	R	V				
Ar.1A-1	R	V				
Ar17A-1	R	V				

FIG. 1A.

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PROPOSED VSP β METHIONINE-ENRICHED VARIANTS

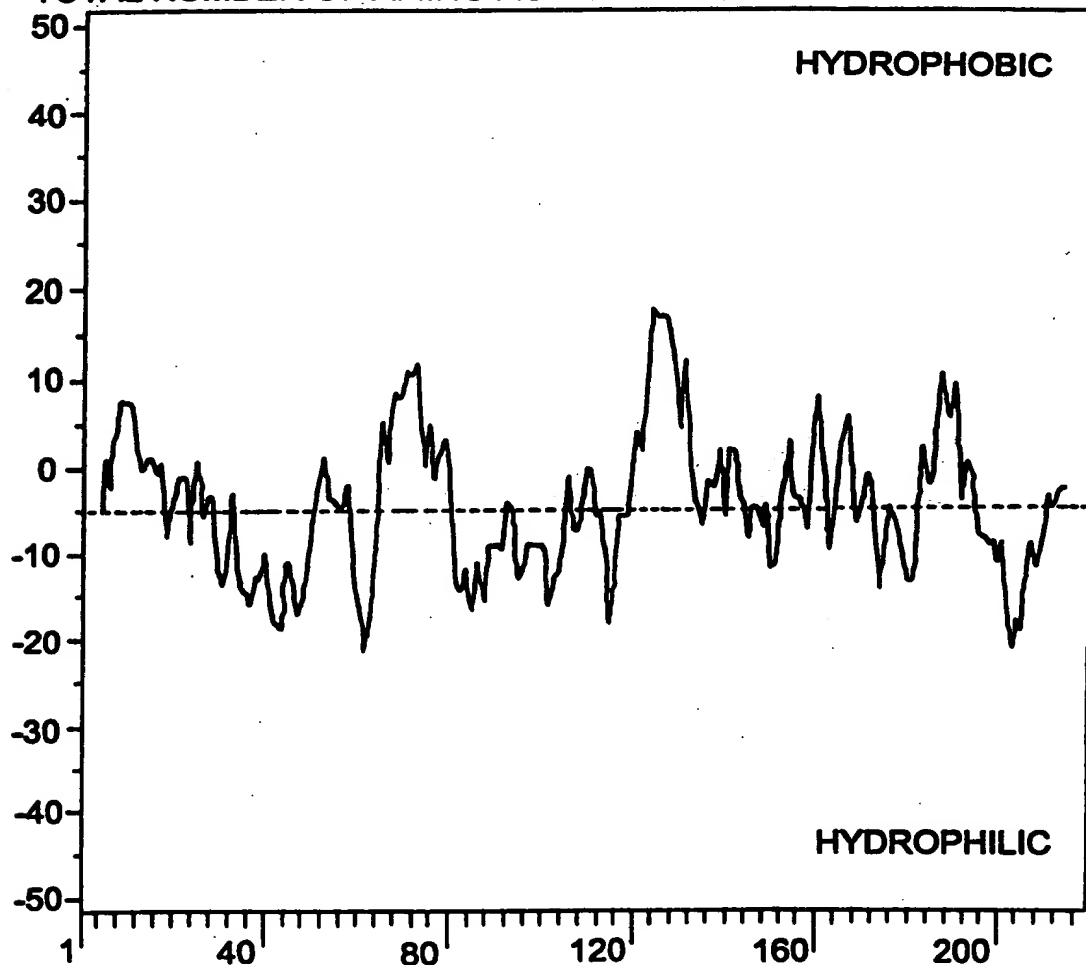
	1	5	10	15	20	25	30																								
VSPβ	R	S	S	E	V	K	C	A	S	F	R	L	A	V	E	A	H	N	I	R	A	F	K	T	I	P	E	E	Q	V	
VSPβ-Met10				M												M														M	
VSPβ-Met20				M												M														M	
VSPβ-Met30				M												M								M						M	
	31	35	40	45	50	55	60																								
VSPβ	E	P	T	K	D	Y	I	N	G	E	Q	F	R	S	D	S	K	T	D	N	Q	Q	A	F	F	Y	A	S	E	R	
VSPβ-Met10				M									M																	M	
VSPβ-Met20	M			M								M																		M	
VSPβ-Met30	M			M								M					M													M	
	61	65	70	75	80	85	90																								
VSPβ	E	V	H	H	N	D	I	F	I	F	G	I	D	N	T	V	L	S	N	I	P	Y	Y	E	K	H	G	Y	G	V	
VSPβ-Met10	M			M								M				M														M	
VSPβ-Met20	M	M	M									M				M														M	
VSPβ-Met30	M	M	M									M				M							M							M	
	91	95	100	105	110	115	120																								
VSPβ	E	E	F	N	E	T	L	Y	D	E	W	V	N	K	G	D	A	P	A	L	P	E	T	L	K	N	Y	N	K	L	
VSPβ-Met10																															
VSPβ-Met20								M				M																			
VSPβ-Met30								M				M																			
	121	125	130	135	140	145	150																								
VSPβ	L	S	L	G	F	K	I	V	F	L	S	G	R	Y	L	D	K	M	A	V	T	E	A	N	L	K	K	A	G	F	
VSPβ-Met10	M							M								M								M							
VSPβ-Met20	M							M				M				M								M						M	
VSPβ-Met30	M							M				M				M								M						M	
	151	155	160	165	170	175	180																								
VSPβ	H	T	W	E	Q	L	I	L	K	D	P	H	L	I	T	P	N	A	L	S	Y	K	S	A	M	R	E	N	I	L	
VSPβ-Met10																															
VSPβ-Met20																															
VSPβ-Met30																															
	181	185	190	195	200	205	210																								
VSPβ	R	Q	G	Y	R	I	V	G	I	I	G	D	Q	W	S	D	L	L	G	D	H	R	G	E	S	R	T	I	F	K	L
VSPβ-Met10																															
VSPβ-Met20																															
VSPβ-Met30																															
	211	215	218																												
VSPβ	P	N	P	M	Y	Y	I	I	E																						
VSPβ-Met10																															
VSPβ-Met20																															
VSPβ-Met30																															

FIG. 2.

Title: Compositions and Methods for Altering Amino Acid Content of
Proteins
Inventor(s): Rao *et al.*
Application N : 09/478,598
Atty Dkt N : 5718-16A (35718/193734)

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HYDROPATHY INDEX COMPUTATION FOR SEQUENCE VSPB.
TOTAL NUMBER OF AMINO ACIDS IS: 218.



HYDROPATHIC INDEX OF VSPB FROM AMINO ACID 1 TO AMINO ACID 218.
COMPUTED USING AN INTERVAL OF 9 AMINO ACIDS. (GRAVY=-4.95).

FIG. 3A.

Title: Compositions and Methods for Altering Amino Acid Content of Proteins

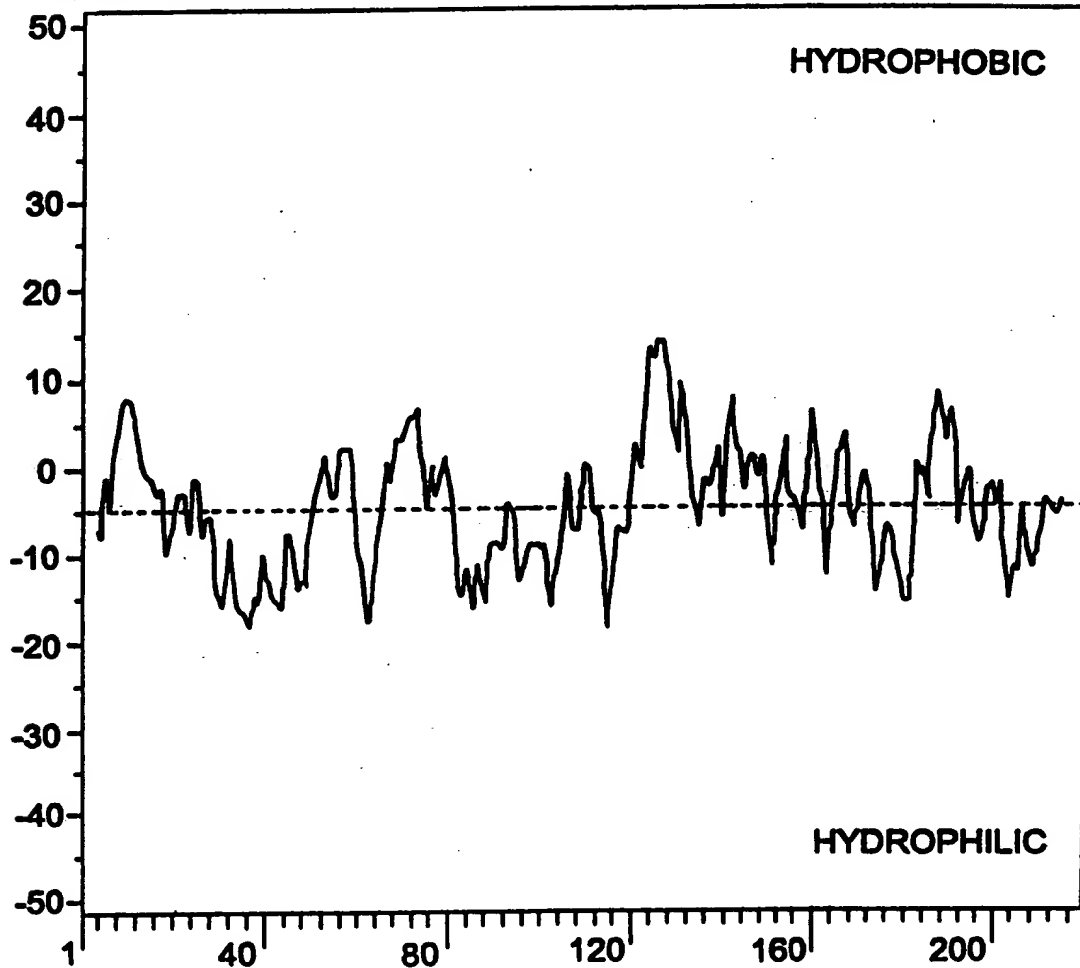
Inventor(s): Rao *et al.*

Application No: 09/478,598

Attorney Dkt No: 5718-16A (35718/193734)

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HYDROPATHY INDEX COMPUTATION FOR SEQUENCE VSPM10.
TOTAL NUMBER OF AMINO ACIDS IS: 218



HYDROPATHIC INDEX OF VSPM1 FROM AMINO ACID 1 TO AMINO ACID 218.
COMPUTED USING AN INTERVAL OF 9 AMINO ACIDS. (GRAVY=5.52).

FIG. 3B.

Title: Compositions and Methods for Altering Amino Acid Content of Proteins

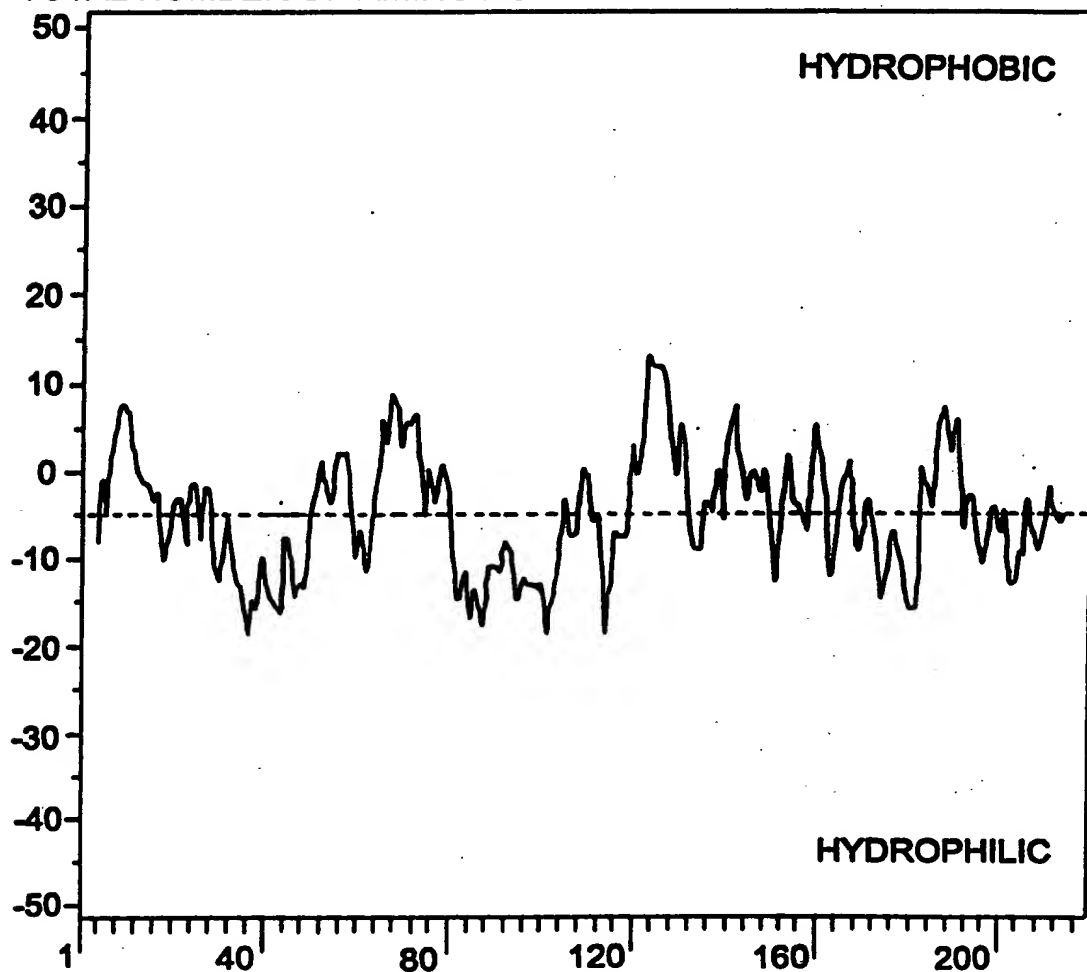
Inventor(s): Rao *et al.*

Application No: 09/478,598

Atty Dkt No: 5718-16A (35718/193734)

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HYDROPATHY INDEX COMPUTATION FOR SEQUENCE VSPM20.
TOTAL NUMBER OF AMINO ACIDS IS: 218.



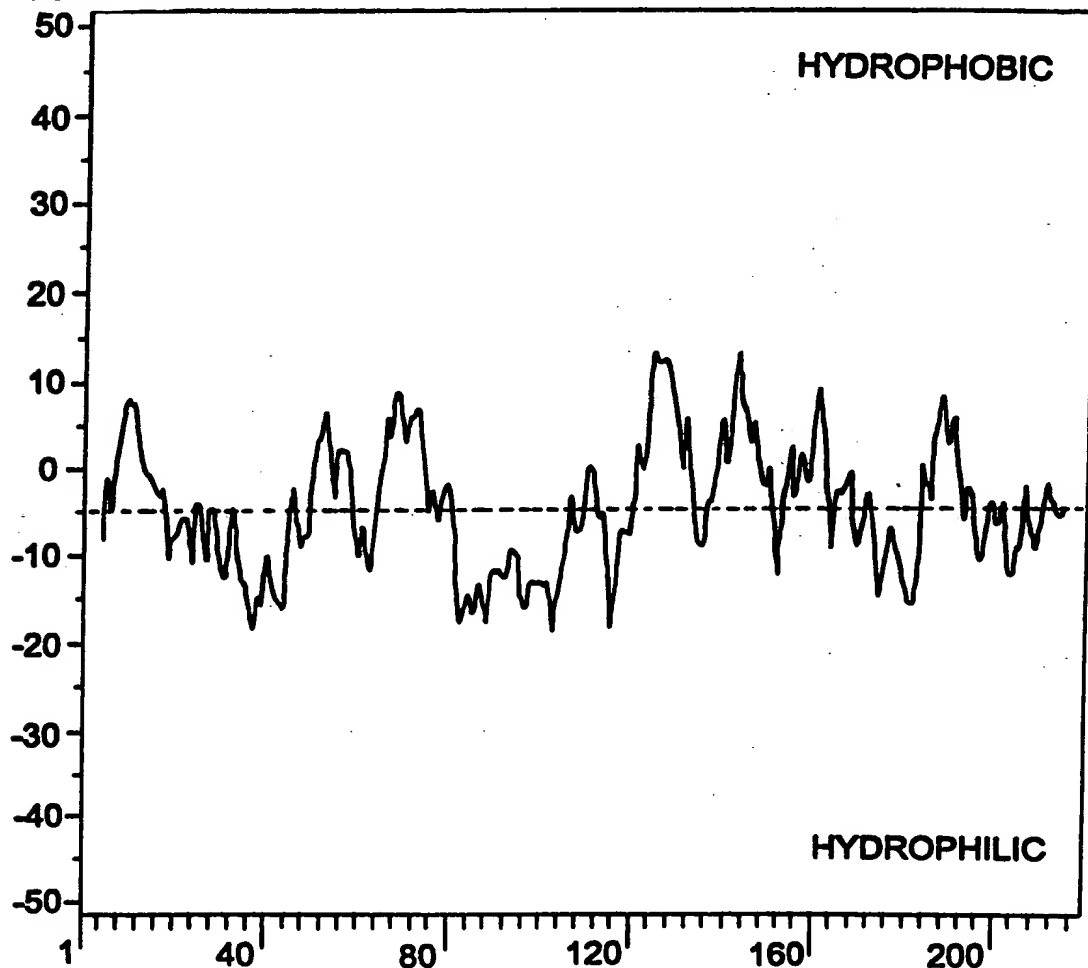
HYDROPATHIC INDEX OF VSPM20 FROM AMINO ACID 1 AMINO ACID 210.
COMPUTED USING AN INTERVAL OF 9 AMINO ACIDS. (GRAVY=-5.68).

FIG. 3C.

Title: Compositions and Methods for Altering Amino Acid Content of Proteins
Inventor(s): Rao *et al.*
Application N : 09/478,598
Atty Dkt No: 5718-16A (35718/193734)

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HYDROPATHY INDEX COMPUTATION FOR SEQUENCE VSPM30.
TOTAL NUMBER OF AMINO ACIDS IS: 218.



HYDROPATHIC INDEX OF VSPM30 FROM AMINO ACID 1 TO AMINO ACID 218.
COMPUTED USING AN INTERVAL OF 9 AMINO ACIDS. (GRAVY=-5.31).

FIG. 3D.

COLONY LIFT ASSAY TO DETECT PROTEIN-PROTEIN INTERACTIONS

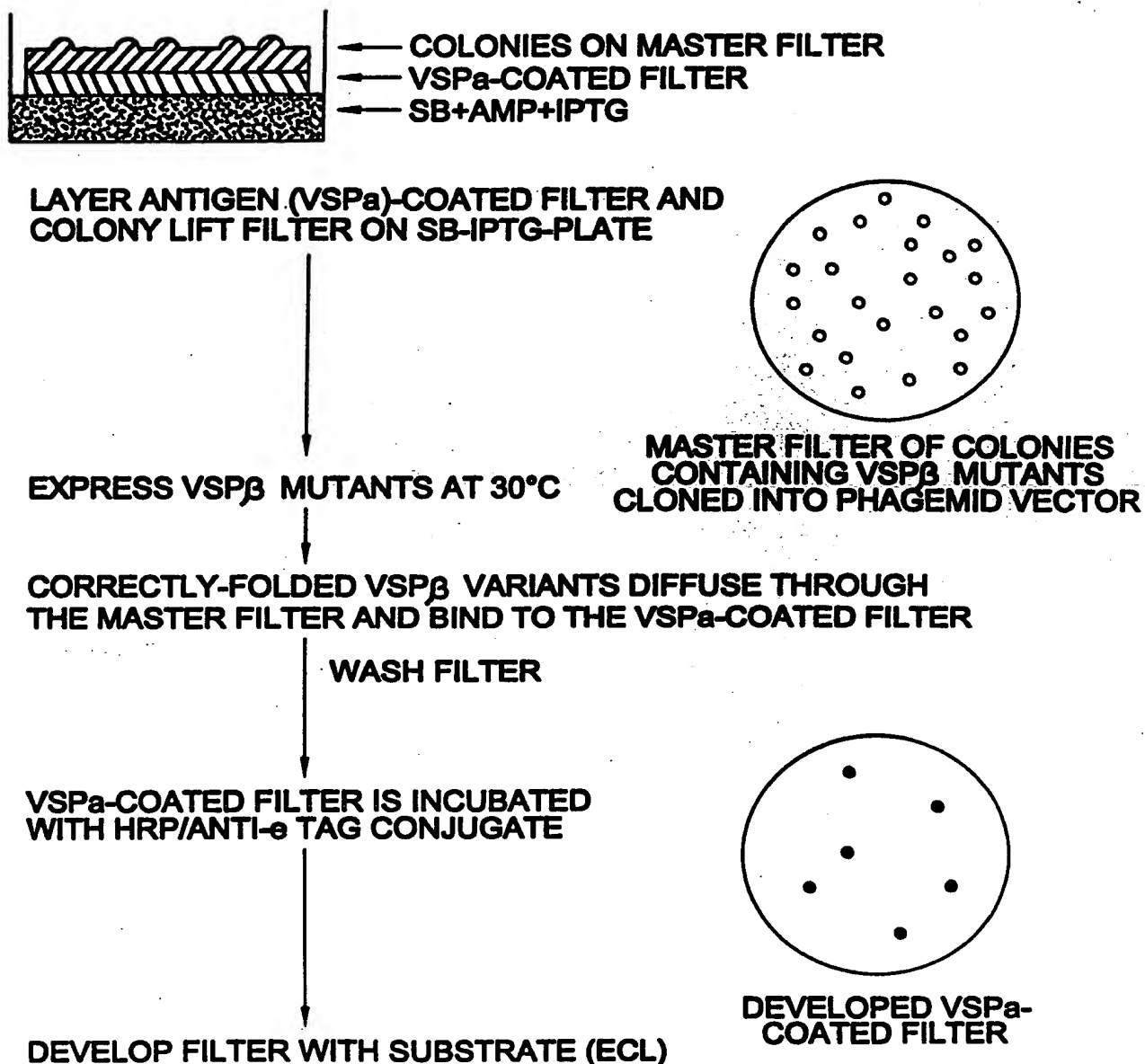


FIG. 5.